

इंटरनेट

मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 5030-1 (1982): Metal Cutting Bandsaw Blades, Part I:
Definitions and Terminology [PGD 32: Cutting tools]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

BLANK PAGE





Indian Standard

SPECIFICATION FOR METAL CUTTING BANDSAW BLADES PART I DEFINITIONS AND TERMINOLOGY

(First Revision)

1. Scope — Covers definitions and terminology relating to metal cutting bandsaw blades.

1.1 The guidelines for selection of tooth shape and type of set for a particular metal cutting bandsaw blade shall be as given in Appendix A.

2. Definitions and Terminology

2.0 Bandsaw Blade — It is an endless blade manufactured of a continuous strip of steel having one toothed edge (see Fig. 1 and Fig. 2 below).

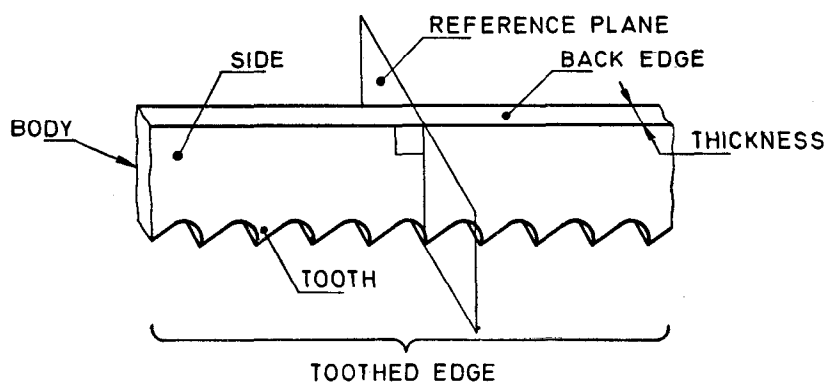


FIG. 1

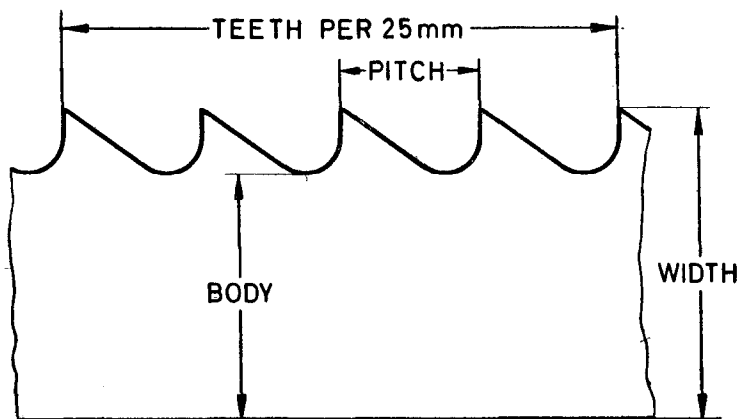


FIG. 2

2.1 Elements of the Blade — (see Fig. 1 and Fig. 2).

2.1.1 Body — The part of the blade between the bottom of the gullet and the back edge.

2.1.2 Teeth — The serrations formed across the thickness of the blade to provide cutting edges.

2.1.3 Toothed Edge — The longitudinal edge along which the teeth have been formed.

2.1.4 Back Edge — The longitudinal edge parallel to the toothed edge.

Adopted 30 March 1982

© July 1982, ISI

Price Rs 7.00

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

2.1.5 Side — The flat surface between the toothed edge and the back edge.

2.1.6 Width — The overall distance between the point of the tooth and the back edge.

2.1.7 Thickness — The distance between two sides of the body.

2.2 Characteristics of the Teeth — (see Fig. 1, 3, 4 and 5).

2.2.1 Pitch — The distance between the apices of adjacent teeth.

2.2.2 Teeth per Unit Length — The number of complete teeth per 25 mm.

Note — Pitch and teeth per unit length are mutual reciprocals.

2.2.3 Cutting Edge — The edge of the face which is intended to perform cutting. It is formed by the intersection of flank and face.

2.2.4 Depth — The distance from the point of tooth to the deepest portion of the gullet.

2.2.5 Face — The surface of the tooth over which the chip flows.

2.2.6 Flank — The surface over which the surfaces produced on the workpiece pass. It extends to the root radius.

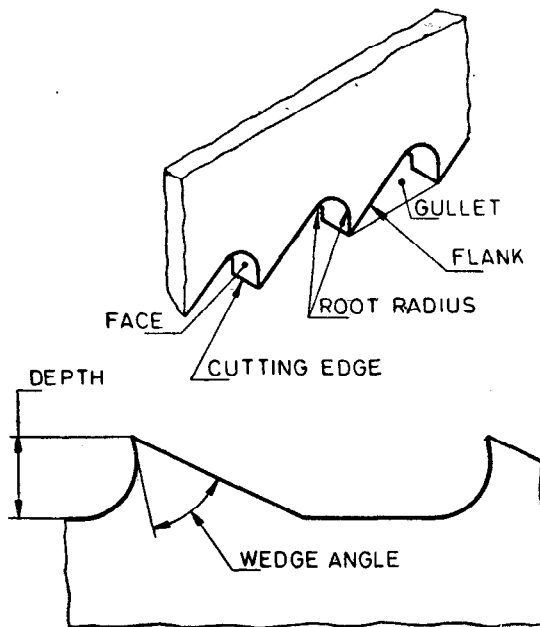


FIG. 3

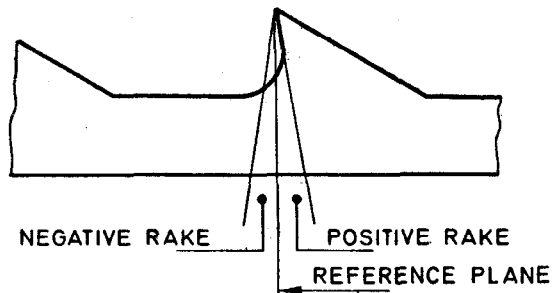


FIG. 4

2.2.7 Gullet — The space bounded by the face, root radius and flank of a tooth which permits chip removal.

2.2.8 Root Radius — The radius connecting the face of one tooth and the flank of the preceding one.

2.2.9 Wedge Angle — The included angle between the face and the non-set tooth.

2.2.10 Reference Plane — The plane through the selected point on the cutting edge chosen so as to be perpendicular to the blade back edge.

2.2.11 Rake — The angle between the face and the reference plane of the assumed non-set tooth.

2.3 Tooth Set and Overall Set — (see Fig. 5).

2.3.1 Tooth Set — The projection of the teeth from the side of the blade to provide cutting clearance.

2.3.2 Overall Set — The total thickness of the blade between two opposite teeth taking into account the set on either side of the blade which determines the overall width of cut.

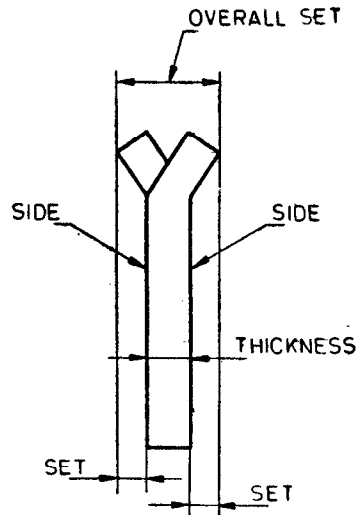


FIG. 5

2.3.3 Non-Set Tooth — The tooth which are not off-set.

3. Tooth Shapes

3.0 The basic tooth shapes are given below.

3.1 Regular or Standard Tooth — A tooth having zero degree rake angle and full round gullets (see Fig. 6). This type of tooth may be furnished in alternate, raker and wavy set only (see 4.3).



FIG. 6

3.2 Skip or Butress Tooth — A tooth of basically regular tooth shape, every alternate tooth being removed. A large pitch is thus obtained, giving a longer gullet without making the tooth too great at the expense of blade strength (see Fig. 7).

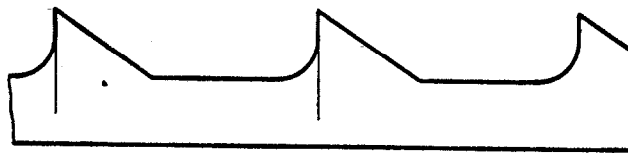


FIG. 7

3.3 Hook Tooth — A tooth similar to a skip tooth except that the rake of the tooth is positive (see Fig. 8). This type of tooth is to be furnished in raker set only.



FIG. 8

4. Type of Set (Tooth Offset)

4.1 Alternate Set — The transverse setting of individual teeth are alternately set to the right and to the left (see Fig. 9).



FIG. 9

Note — For metal (ferrous) working saw blades, this type of set is not recommended.

4.2 Raker Set — The individual teeth are one set to the right, one set to the left and one unset or vice-versa (see Fig. 10).

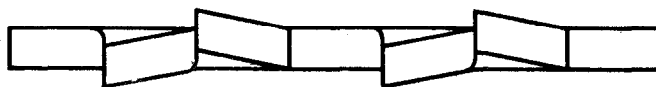


FIG. 10

4.3 Wavy Set — The transverse setting of groups of teeth are set to the right and to the left, with set regularly varying (see Fig. 11).



FIG. 11

EXPLANATORY NOTE

This standard was first published in 1969. The present revision is necessitated to fall in line with the work done at ISO level. While revising, this standard has been split up into the following three parts:

Part I Definitions and Terminology

Part II Tolerances

Part III Dimensions and Requirements.

This part is based on ISO 4875/I-1978 'Metal cutting bandsaw blades — Part I : Definitions and terminology' issued by International Organization for Standardization.

APPENDIX A

(Clause 1.1)

GUIDELINES FOR SELECTION OF TOOTH SHAPE AND TYPE OF SET

A-1. Guidelines for selection of tooth shape and type of set for a particular metal cutting bandsaw blade shall be as given below:

Tooth Shape	Type of Set	Applications
Regular	Raker	General purpose sawing, conventional sawing, friction sawing. For cutting on a long run production basis, profile/contour cutting of materials, such as mild steel, carbon steel, alloy steel, tool steel, stainless steel, cast iron steel castings, non-ferrous base alloys, asbestos, plastics, wood, etc.
Regular	Wavy	General purpose sawing, material with varying thicknesses, very thin sections, such as pipes and tubes of mild steel, alloy steel, tool steel, etc.
Skip or Buttress	Raker	Machining non-ferrous alloys like aluminium, magnesium, soft brass, wood, plastics, and thick sections and ferrous metals.
Skip or Buttress	Alternate	Non-ferrous alloys, hardwood, hard plastics, asbestos, graphite, etc.
Hook	Raker	For free cutting rates, longer blade life, rough cutting, harder non-ferrous metals, wood, plastics, large easily machined ferrous sections, fibre, bakelite.